

Compact, flexible, real-time electricity monitoring & control for the grid edge

Features

- Real-time energy monitoring for 6 electrical circuits with integrated 4G LTE cellular communications and 2.4GHz WiFi communications.
- Switching control and Modbus interface to support data acquisition and control of Distributed and Consumer Energy Resources (DER/CER) such as solar generation, battery systems, electric vehicle charging, hot water, pool pumps, air conditioning and more!
- Support for Modbus Client or Server operation to act as Solar Inverter consumption meter for export-limiting and flexible or dynamic export control.
- Sophisticated measurements on two timeframes: Short Energy—instantaneous measurements typically transmitted every 5–30 seconds (configurable); and Long Energy—every 5 minutes.
- Resilient 5-minute data delivery supported by 28 days of on-device logging capacity.
- Multi-carrier 4G LTE communications that auto-selects from available telecommunications networks. In Australia, operation on Telstra and Optus 4G. International LTE support available.
- WiFi communications with automated fallback to 4G LTE for reliable configuration and support.
- Compact and DIN-rail mounted—2 poles (35mm wide)
- Class 1.0 accurate ($\pm 1\%$) four-quadrant energy and power quality measurement for applications up to 600A using split-core current transformers.
- Flexible monitoring to support installation at single-phase and multi-phase sites.
- RESTful API provides easy access to monitoring data and switching functionality, for use in Wattwatchers solutions (e.g. MyEnergy app, MyEnergy Plus) & third-party platforms.
- Over-the-air (OTA) device management includes firmware upgrades and remote correction of common installation errors.
- Comes with Wattwatchers Essentials software tools for streamlining installation and operations: fleet management, onboarding and dashboarding.

Applications

- Domestic, commercial and industrial energy monitoring
- Solar monitoring and dynamic export limiting
- DER/CER integration and control
- Home energy management systems (HEMS)
- Asset-level monitoring (supporting analytics)
- Utility services



Technical Summary

Monitoring channels	Six channels for monitoring, which are reported individually and can be configured to monitor one, two or three phases. Long Energy and Short Energy measurements are made on each channel.
Energy measurements: Long Energy¹	Long Energy data is logged. The following measurements are made in each 5-minute interval: real and reactive energy, min/max voltage, min/max current, power factor.
Energy measurements: Short Energy	Short Energy data is composed from instantaneous measurements that can be configured over-the-air from 5–295 secs ² . The standard setting is 30 seconds and includes: real and reactive energy, voltage, current, frequency, power factor.
Data Logging	28 days on-device logging of Long Energy (5-minute) data for 6 channels. Non-volatile storage with automatic recovery from communications outages.
Communications	4G LTE CAT 1 and 2.4GHz WiFi WiFi communications with automated fallback to 4G LTE for reliable configuration & support Automatic switching between supported 4G LTE carriers for the best performance.
Network carrier	In Australia, Telstra and Optus are supported. International LTE support available.
Power supply	Built-in power supply for operation at 80–265V AC
Standard inclusions	6-circuit monitoring, power supply, 4G LTE with multi-network SIM. 4G LTE antenna, pre-wired power tails, current transformer connector, serial number labels, Quick Start Guide.
Antenna	Standard direct connect multiband antenna with SMA connector included. Optional: additional external antennas as required e.g. to extend outside metal meter box.
Current sensing	Split-core current transformers available in 60A, 120A, 200A, 400A, 600A.
Configuration	Fast installation configuration and verification with the Wattwatchers Onboarding application.
Real-time data access	All measurement data is available in real-time from the Wattwatchers RESTful API, for use in the applications of your choice. Some measurements are visible in Wattwatchers applications and third-party software applications.
Device management	The Wattwatchers Fleet, Onboarding and Device Management services supports a comprehensive range of services including: <ul style="list-style-type: none"> • Remote device configuration for installers or remote support teams • Fleet health monitoring and access to data for diagnostics and analysis • Firmware updates and configurable reporting rate managed by Wattwatchers
Modbus	Isolated Modbus RTU provides SELV wiring to inverters and other Modbus Server & Client devices. Requires custom development for integration. See https://service.wattwatchers.com.au/6mw-cer for the list of currently supported devices.
Switching	One independent voltage-free 750 mA 240V AC rated switch with zero-crossing control to minimise inductive stress on contactors. Switch control is performed through the Wattwatchers API. On-device scheduling and rules-based switch and Modbus actuation coming in 2024.

More information at: wattwatchers.com.au

Some information may be subject to change without notice

¹ For a full list of data points provided by the device, see <https://docs.wattwatchers.com.au/api/tips/concepts.html>

² Non-standard configuration may incur additional charges

Electrical Specifications

Power supply characteristics

Input-voltage characteristics	Measured voltage	80–265V AC
	Permissible overload	1.15 nominal voltage for up to 1 minute
Power consumption		1.2W Single Phase (Through P1/N terminals)
Power tails	Cabling	600V 7/0.25mm ² (18AWG) tinned annealed copper bunch. The conductors comply with UL758, UL1015 105C and CSA C22.2 Number 127.

Energy measurement specifications

Energy measurements	Short Energy	Configurable from 5–295 seconds. Default setting is 30 seconds. Push to server (QOS0 'at most once' delivery). Short Energy measurements: real energy, reactive energy, voltage, current, frequency, power factor.
	Long Energy	5 minute interval data (QOS1 'at least once' delivery). 28 days data logged on device. Long Energy measurements: real energy, reactive energy, min/max voltage, min/max current, power factor.
	Internal logging	28 days logging of Long Energy of 6 channels; Data stored in non-volatile memory and transmitted automatically when communications are restored.
	Network types	Single Phase Two Wire (1P2W), Two Phase Three Wire (2P3W) or Three Phase Four Wire (3P4W) systems.
	Voltage	80-265V, 0.1V resolution.
	Current	Split-core Current Transformers Standard CT ratings 60A, 120A, 200A, 400A, 600A
Measurement accuracy	Active energy	Class 1 based on IEC 62053-21 (factory calibration)
	Reactive energy	Class 2 based on IEC 62053-23 (factory calibration)
	Frequency	45 to 65 Hz, 0.01 Hz resolution
Input-current characteristics	Internal burden	2.7 ohms
	Full scale	100 mA
	CT Connections	Not isolated (Neutral referenced)

Communications

Cellular communications	Network type	4G LTE CAT 1 In Australia: LTE-FDD B1/B2/B3/B4/B5/B7/B8/B28/B66 (2100/1900/1800/1700/850/2600/900/700/1700 MHz) International support: LTE-FDD B1/B2/B3/B4/B5/B7/B8/B12/B13/B18/B19/B20/B25/B26/B28/B66/B71 (2100/1900/1800/1700/850/2600/900/700L/700U/850L/850U/800/1900/850/700/1700/600 MHz)
	SIM	Factory-fitted internal micro-SIM.
	Auto-carrier selection	Automatically selects the best compatible network based on signal strength at the installation location.
	Carrier support	In Australia: Telstra, Optus.
	Antenna	External SMA connector. Supplied with a multi-band stub antenna. External antenna options available.
WiFi communications	Network type	2.4 GHz IEEE 802.11 b/g/n up to 150 Mbps
	Operating mode	Client, Access Point
	Authentication modes	WEP, WPA, WPA2, WPA3
	Antenna	High performance 3 dBi internal antenna

Auditor 6MW-CER Datasheet

Mechanical characteristics

Weight	0.4 kg	
IP degree of protection	IP50 (front display) when installed in switchboard	
Dimensions	89 x 77 x 35 mm (2 DIN poles)	
Mounting	35mm DIN rail (TS35)	
Connections	Voltage	6 position 4 connection screw terminal 1.0-2.5mm ² (12-24 AWG)
	Current	8 position screw terminal 0.5-1.5mm ² (16-26 AWG)
	Switching	2 position screw terminal 1.0-2.5mm ² (12-24 AWG)
	Modbus	3 position screw terminal 0.5-1.5mm ² (16-26 AWG)

Environmental and safety conditions

Ambient operating temperature	-10°C to +55°C
Pollution degree (PD)	2
Overvoltage category (OVC)	III (distribution boards)

Certifications

Responsible Supplier Number	E5258
Safety	AS/NZS 62368.1:2022 (IEC 62368-1:2018 (ED.3.0), MOD)
Emissions	ETSI EN 301 908-1 V15.1.1 (2021-09) FCC 47 CFR Part 22 Subpart H AS/NZS CISPR 32:2015 A1:2020
FCC ID	2AJYU-8BAE001
Radio and Telecommunications	ACMA Radiocommunications Equipment (General) Rules 2021 ARPANSA 2021 RPS S-1 AS/NZS 2772.2:2016 AS/CA S042.1:2022 AS/CA S042.4:2022 Radiocommunications Equipment General Rules 2021 - Schedule 5 - Part 15

Included Options

Switching (SW) - 1 switching output can be used to directly control contactors or trigger events in other equipment.

Switching channels	Number	1 independent switching channel controlled via API and Wattwatchers applications
	Electrical rating	240V AC 750 mA
	Type	Voltage-free zero-crossing control to minimise inductive stress on contactors
Power supply	External connection	240V AC connected to switching common terminal

Modbus RTU (MB) - For data acquisition and control of third-party devices—custom drivers must be created to support equipment.

Modbus	Type	Modbus RTU RS-485 using SELV wiring to external meters, solar inverters and other Modbus devices.
	Communications Modes	Operates as a Modbus Client or Server for compatible devices. Capable of communicating with 1 Modbus device.
	Auto-detection	The Auditor automatically detects and establishes communications with supported devices upon physical connection.
	Isolation	Optically isolated.

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Product Dimensions

